

KIRTLANDIA®

The Cleveland Museum of Natural History

March 1989

Number 44:55-58

SKELETAL REMAINS FROM SQUAW ROCKSHELTER

FRED PRIOR

*Research Engineering Division
Information Systems, Siemens International
Wheaton, Illinois 60191*

ABSTRACT

Skeletal remains recovered from the Early Archaic level of the Squaw Rockshelter were identified as belonging to a young female Amerindian. Analyses of the limited fragments and dentition suggest a balanced diet of moderate coarseness. No pathologies or trauma were noted. Teeth from at least two other individuals were present.

Introduction

This report on the skeletal material from Squaw Rockshelter includes an inventory and a brief anatomical description of pathologies and anomalies where evident. It also provides estimates of the sex and age at death of the single most complete specimen. The materials are curated in the Physical Anthropology collections of the Cleveland Museum of Natural History as CMNH 8080. As noted by Brose (this volume), the circumstances of recovery suggest surface abandonment of the body in the rear of the shelter, with natural internment occurring only after some period of loss due to erosion. With the exception of a relatively complete mandible and five small cranial fragments all remains are post-cranial. Where it can be determined, the majority of this material is from the right side of a single individual.

Inventory

Post-cranial Remains

A right proximal humerus with the head well preserved was present. The shaft is broken slightly inferior

to the deltoid tuberosity. The distal portion was not recovered. All epiphyses of the head are fused, and there is no observable pathology.

Diameter of head:
vertical — 38.4mm
horizontal — 36.0mm

A complete left clavicle with slight damage to the acromion is present. Both epiphyses are fused.

Maximum length — 138.4mm
Circumference — 32.4mm
Robustness index — 23.4

Fragments of one cervical and three thoracic vertebrae are present. All are marked by a lack of robustness, and exhibit no gross abnormalities. The cervical (possibly the fourth) vertebrae is complete with the exception of the anterior and posterior tubercles on both sides and the lateral borders of both transverse foramina. The three thoracic vertebrae are extremely

fragmentary. The most complete (possibly the second or third) consists of the posterior half of the centrum and the left transverse process with the spinous and right transverse processes missing. The remaining two thoracic vertebrae are represented by a spinous process and lamina with both superior articular processes, and a small body fragment with left superior articular process respectively.

A fragment of the right scapula containing the intact glenoid fossa is present. The scapula has been fractured (post mortem) along a line from a point in the scapular notch just medial to the base of the coracoid to a point on the axillary boundary about 5cm inferior to infraglenoid. The bases of both the coracoid process and the spine are present, but neither the coracoid nor the acromion processes remain. There is no observable lipping of the glenoid margin. There is also a second, smaller fragment of the right scapula composed of a section of the spine medial to that of the first fragment. The two sections do not articulate.

Length of glenoid — 33.6mm

Width of glenoid — 24.3mm

Width of axial border (3cm below infraglenoid) — 6.5

A badly preserved right distal extremity of the femur with no articulated shaft, was recovered. The patellar and tibial surfaces are largely intact as is the lateral condyle. Only a small section of the medial condyle remains.

The right tibia is represented by two fragments: a 92mm section of shaft of the proximal tibia beginning immediately distal to the popliteal line, and a section of the proximal extremity composed of the articular surface of the lateral condyle and the fibular articular facet.

A small section (44mm in length) of the right distal ulna (shaft) is present. A complete right first metacarpal and a right second with the proximal end damaged. Four phalanges are present. These include a proximal, middle and terminal from the right hand and a terminal from the fifth digit of the foot.

Five small rib fragments lacking any distinguishing landmarks are the only remains of the rib cage. Miscellaneous fragments include eighteen small, indeterminate, irregular pieces of compact tissue and four irregular chunks of predominantly cancellous tissue are present. All are presumed to be long bone fragments.

Cranial Remains

The cranial remains consist of five small fragments and a relatively complete mandible. The body of the mandible was broken (post mortem) at the socket of the right canine, but has subsequently been restored. The left ramus is missing, the body having been fractured through the midline of the socket of M_3 . The right ramus is present but broken superior to the mandibular foramen. Both the coronoid and condylar processes are thus absent. The first and second molars on both sides were lost ante-mortem and the sockets had been resorbed, thus giving the

mandible a low profile. There is some evidence of periodontal infection of the alveolar process in the region of the anterior dentition. The chin is relatively square, but the mandible as a whole lacks robustness.

Symphysial height - 30.5mm

The parietal is represented by a large rectangular section of the right parietal. No sutures are evident. The meningeal grooves are not pronounced.

The maxilla is represented by a small section of the right alveolar process containing the socket for M^3 and the distal wall of the socket of M^2 with the channels for the lingual and disto-buccal roots. Sections of both the right and left greater sphenoid wing are present. The fragment of the left greater wing is roughly triangular in shape having three surfaces: the posterior, the superior or cerebral, and the orbital. The inferior section is not preserved, thus the sphenoidal spine and the sphenoidal foramina (ovale, rotundum, spinosum) are absent. The fragment of the right greater wing is smaller and is predominantly the cerebral surface. Only a small triangular section of the posterior surface and a small section of the sphenoid-squamosal suture are present.

Dental Remains

All mandibular dentition can be unambiguously associated with the remains of the single individual discussed above. In addition there are 14 isolated teeth, seven of which were found in association with these remains. The remaining seven were recovered from other units. Due to an accident in the CWRU offices, all dentition was placed together making it impossible to determine which were associated. Triplication of mandibular second and third molars (three left M_2 and three right M_3) indicates the minimum number of individuals is three. Table 1 lists the materials present and the state of attrition or loss.

With the exception of several isolated teeth, the general state of wear is relatively low. In the mandibular dentition M_1 and M_2 are missing on both sides and the alveolar processes have been resorbed. There is a small cavity on the mesial surface of the right P_2 and the tooth is rotated slightly distally and lingually. No other caries are evident. Slight shoveling of the three incisors is evident. A protostylid appears on the right M_3 . The isolated teeth are in a very poor state of preservation. All are cracked or split, some to the extent of having the entire pulp cavity eroded.

Age and Sex

Due to the paucity of material in general, the absence of complete longbones, and the lack of reliable indicators (e.g. pelvic or cranial material), determinations of age at death and sex are uncertain. All available indicators were utilized. Table 2 lists the metric analyses employed for the determination of the sex of the specimen.

All listed measures indicated that the individual was

TABLE 1
DENTAL ATTRITION AND LOSS

	Mandible		Misc. Dentition	
	<i>Right</i>	<i>Left</i>	<i>Right</i>	<i>Left</i>
Maxillary central I	•	•	•	•
Maxillary lateral I	•	•	3*	•
Maxillary canine	•	•	6	•
Maxillary premolar 1	•	•	•	•
Maxillary premolar 2	•	•	•	•
Maxillary molar 1	•	•	6	*
Maxillary molar 2	•	•	6	5
Maxillary molar 3	•	•	•	5
Mandibular central I	4	1	•	•
Mandibular lateral I	4	4	*	•
Mandibular canine	1	4	•	•
Mandibular premolar 1	5	4	•	•
Mandibular premolar 2	5	5	•	5*
Mandibular molar 1	2	2	•	•
Mandibular molar 2	2	2	•	6* (6*)#
Mandibular molar 3	3	1	6 (6*)#	5

1 — postmortem loss, socket present; 2 — antemortem loss, socket resorbed; 3 — little; 4 — dentine visible; 5 — cusps gone; 6 — pulp exposed; • — not available; * — poorly preserved; # — two specimens

TABLE 2
DETERMINATION OF SEX

Characteristic	Measurement	Indication	Reference
Humeral Head Diameter		Female	Krogman 1962:144
vertical	38.4mm		
horizontal	36.0mm		
Clavicle Length	138.4mm	Female	Krogman 1962:148
Scapular Dimensions			
length of glenoid	33.6mm		
width of glenoid	24.3mm		
width of axillary border			
3cm below infraglenoid	6.5mm		
Mandibular Incisor and Canine	Z=7.2423	Female	Ditch and Rose 1974

female. This finding is consistent with the general lack of robustness which characterizes the remains. The only contradictory evidence is the squareness of the chin which appears somewhat masculine. It must be emphasized, however, that all available indicators of sex are not only of relatively low reliability, but also are all measures of sexual dimorphism.

A tentative age at death of 25 years for this individual has been based on the following criteria. Both maxillary and mandibular third molars had erupted. The right M₃ was in occlusion, but is only slightly worn

(enamel polished) implying an age of 17-25 years (Brothwell 1965:69). The epiphysis of the head of the humerus was completely fused indicating an age in excess of 24 years (Bass 1971:116); as were both epiphyses of the clavicle indicating 25-28 years (Krogman 1962:32). Small sections of the speno-frontal and speno-squamosal sutures are present, but disarticulated, perhaps indicating a relatively low degree of suture closure. No lipping of the glenoid of the scapula is observed (lipping normally commencing at age 30-35, Krogman 1963:55) nor are arthritic changes of the vertebrae evident.

Discussion

The fragmentary nature of this material makes comparison with material from sites of similar antiquity practically impossible. The few measurements possible are of relatively little comparative interest. The relatively moderate tooth wear stands in distinction to the finding of extreme wear reported by Angel (1966) for the Tranquility Site skeletal material. It is unknown whether this discrepancy is due to a dietary difference or the relatively young age of the Squaw Rockshelter individual. Perhaps the ante-mortem loss of M_1 and M_2 is indicative of the effects of a similarly coarse diet.

The skeleton is in general lightly built and rather petite. There are no observable pathologies except those associated with the mandible and mandibular dentition. There is indication of neither trauma nor cause of death. The predominance of remains from the right side would indicate that the individual was buried lying on her right side. Δ

Acknowledgements

The author thanks Professor Joseph Katich, CWRU School of Dentistry, for independent classification of dental remains.

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